

Exercises - Problems Sheet # 0: Revision on C Basics Programming
Spring 2024

No. Of Questions: 15

No. Of Pages: 2

Answer the following:

1) Write a C program to print the following line as shown below:

Welcome!

You are able to test your skill of writing C code here.

2) Write a C program to declare two integer and one float variables, then initialize them to 10, 15, and 12.6. It then prints these values on the screen.

3) Write a C program to prompt the user (i.e. ask the user) to input 3 integer values and print these values in the reversed order.

4) Given the following pseudo code, write a program that executes it.

- a. read x
- b. read y
- c. compute $p = x \cdot y$
- d. compute $s = x + y$
- e. total = $s^2 + p (s - x) (p + y)$
- f. print total

5) Write a C program that finds the area of a triangle. Note: a triangle's area = $0.5 * \text{base} * \text{height}$

6) Write a C program that prompts the user to input three integer values and find the greatest value of those three values.

7) Write a program that determines a student's grade. The program will read three scores and determine the grade based on the following rules:

- if the average score $\geq 90\%$ \Rightarrow grade = A
- if the average score $\geq 70\%$ and $< 90\%$ \Rightarrow grade = B
- if the average score $\geq 50\%$ and $< 70\%$ \Rightarrow grade = C
- if the average score $< 50\%$ \Rightarrow grade = F

8) Write a C program that finds whether a number is even or odd.

9) Write a C program that compares two numbers a and b. The output of this comparison is whether the two numbers are equal, that a is greater, or that b is greater.

10) Write a C program that finds the type of a triangle when its three angles are given.

- If all angles are equal, it is an equilateral triangle.
- If any two angles are equal, it is an isosceles triangle.

- If all angles are different, it is an acute triangle.

11) Write a C program that prompts the user to choose an operation to do on 2 input integers. The operations are addition, subtraction, multiplication, and division. Note: the program should not allow the division by zero.

12) Write a C program that will print the following pattern:

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*****
*****
*****
****
***
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*
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13) Write a C program that will print the following pattern:

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*
***
*****
*****
*****
*****
*****
*****
***
*
```

14) Write a C program that finds the sum of the first n natural numbers.

15) Write a C code that finds the sum of the digits of a number.

With our best wishes;